REMARKS

The above-referenced patent application has been reviewed in light of the Non-final Office Action, dated November 9, 2006. Assignee has added new claims 23-32. Assignee had amended claims 1-3, 5-12, 14, 16-18, 20 and 22 to make them clearer, though not in response to the Examiner's rejection. No claims have been cancelled. No new matter has been added. Reconsideration of the above-referenced patent application in view of the following remarks is respectfully requested.

Status of Claims:

Claims 1-3, 5-12, 14, 16-18, 20 and 22 have been amended. The amendments to the claims are made without prejudice or disclaimer, and Assignee believes that none of these claim amendments constitute narrowing amendments. Accordingly, Assignee does not intend to surrender claimed subject matter by submission of the above amendments and no prosecution history estoppel should apply.

New claims 23-32 have been added.

No Claims are cancelled.

35 U.S.C. §112(1) Rejection of Claims:

In the November 9 Office Action, the Examiner rejected claims 1-22 under 35 U.S.C. §112(1) as being not enabled.

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. [MPEP § 2164.01] "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures

in the patent coupled with information known in the art without undue experimentation." *United States v. Telectronics, Inc.*,857 F.2d 778, 785 (Fed. Cir. 1988). A patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661 (Fed. Cir. 1991). Any part of the specification can support an enabling disclosure, even a background section that discusses, or even disparages, the subject matter disclosed therein. *Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361 (Fed. Cir. 2005) (discussion of problems with a prior art feature does not mean that one of ordinary skill in the art would not know how to make and use this feature).

In order to make a § 112(1) enablement rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562 (Fed. Cir. 1993) (examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). "For example, doubt may arise about enablement because information is missing about one or more essential parts or relationships between parts which one skilled in the art could not develop without undue experimentation. In such a case, the examiner should specifically identify what information is missing ***and why one skilled in the art could not supply the information without undue experimentation***." [MPEP § 2164.04]

"Once the examiner has weighed all the evidence and established a reasonable basis to question the enablement provided for the claimed invention, the burden falls on applicant to present persuasive arguments, supported by suitable proofs where necessary, that one skilled in the art would be able to make and use the claimed invention using the application as a guide." [MPEP § 2164.05, citing *In re Brandstadter*, 484 F.2d 1395, 1406-07, 179 USPQ 286, 294 (CCPA 1973)]. "The evidence provided by applicant need not be conclusive but merely convincing to one skilled in the art." [MPEP § 2164.05 (emphasis in original)] The examiner

should **never** make the [enablement] determination based on personal opinion. " [MPEP § 2164.05 (emphasis in original)]

In his rejection, the Examiner points to paragraphs [0020], [0026] and [0027] of the specification for support for claim 1. The Examiner cites these paragraphs as describing some of the subject matter of claim 1:

> "extraction of bits from the image signals and setting the MSB of the second correction signal to a value of 1 and further saving these extracted bits in the memory. The same is interpreted by the figure 2. The specification further recites that extracting the bits and setting the MSB of the second correction signal to a value of 1 would avoid the LBB effect caused in the scanned image by dust or spot on the second correction document."

Yet, pointing to these paragraphs, the Examiner also states that "[t]he specification does not teach how such extracting the plurality of bits and setting the MSB of the second correction signal to a value of 1 would provide image correction or would avoid LBB effect in the image. [Office Action at 5-6]

First, the Examiner fails to identify why one skilled in the art could not supply the information that he claims is missing. Accordingly, Assignee respectfully submits that the Examiner did not meet the initial burden of establishing a *prima facie* § 112(1) lack of enablement rejection and this rejection must fail.

Second, the information that the Examiner claims is missing is not missing. While the paragraphs cited by the Examiner supporting claim 1 indeed provide written description and enablement support for claim 1, they are not the only part of the specification to support claim 1. For example, paragraph [0011] provides description of black and white error correction known in the prior art[1] and a problem associated therewith:

[1] The application also describes the prior art at [0010]: "The analog/digital converter 108 converts the analog signal of the charge-coupled device 106 into a digital signal, and transmits the digital signal into a computer 116."

> When the scanner is scanning a document or a picture, the non-uniformity of the lamp requires an image compensation operation. Generally speaking, a correction document is used for image correction. For example, for the reflective type scanning, a black correction document and a white correction document are used for image correction. If the correction document contains any unwanted object thereon, the unwanted streaking (LBB) effect is generated in the scanned image. Currently, there is no image correction method able to avoid such LBB effect.

In paragraphs [0012] and [0013], the application next describes how his technique reduces image error:

> The present invention provides an image correction method to avoid error images. According to black and white characteristics, only the last few bits of a scanned digital signal are extracted during black correction. While performing white correction, only the first few bits of the scanned digital signal are extracted. The most significant bit of the digital signal is set as 1. Therefore, the LBB effect in scanned image caused by dust or spot on the correction document is avoided. Further, as fewer bits are extracted while scanning the digital signal, the memory requirement is reduced.
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> The image correction method able to avoid error images provided by the present invention is suitable for use in a scanner. While performing black correction, a first correction digital signal is obtained by scanning a first document. Only the last few bits of the first correction digital signal are extracted. While performing white correction, a second correction digital signal is obtained by scanning a second correction document, and only first few bits of the second correction digital signal are extracted. Meanwhile, the most significant bit of the second correction digital signal is, set as 1.

Based upon a reading of the application as a whole, including these paragraphs, clearly one of ordinary skill in the art would understand how to make and use the claimed invention.

Specifically, the application describes that there is a problem with error correction known in the prior art, in that the error correction document may contain unwanted objects, dust or spots, which cause an unwanted streaking (LBB) effect. [Application [0011]] The application describes how black and white error correction is performed according to the prior art. [Application [0011]; *see also* [0040]-[0010] for a description of the prior art] Building off of what was known in the prior art, the application describes that in order to attempt to avoid such

error images, its novel technique for image correction is that only the last few bits of a scanned digital signal are extracted during black correction and only the first few bits of the scanned digital signal are extracted during white correction. [Application [0012]] The application describes that "[t]herefore, the LBB effect in scanned image caused by dust or spot on the correction document is avoided" and that "as fewer bits are extracted while scanning the digital signal, the memory requirement is reduced." [Application [0012]] The application further describes how this method may be used in a scanner: for black correction "a first correction digital signal is obtained by scanning a first document" and "[o]nly the last few bits of the first correction digital signal are extracted; and for white correction "a second correction digital signal is obtained by scanning a second correction document, and only first few bits of the second correction digital signal are extracted." [Application [0012]] Clearly, one of ordinary skill in the art would understand, from a reading of the application as a whole, that this novel idea of extracting fewer scanned bits of the reference document (instead of the entire scanned document, as done in the prior art) leaves fewer instances for the possibility of dust or a spot or another unwanted object to appear on the correction document, which cause the LLB streaking effect. Accordingly, by using fewer bits (instead of bits representing the entire correction document), the chance of having dust, a spot or another unwanted object mar the image is reduced. Thus, the application describes its novel technique for attempting to avoid the LBB effect and thus provide image correction.

As explained above, the application contains sufficient information regarding the subject matter of the claims as to enable one skilled in the art to make and use the claimed invention. One skilled in the art would be able to make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. Accordingly, claim 1 is enabled based upon the disclosure in the present application and the Examiner's rejection is respectfully traversed.

Third, the state of the prior art shows that the application is enabled. In determining whether an application is enabled, one factor that the Examiner must consider, if evidence of it is presented, is the state of the prior art. [MPEP §2164.01(a)] During prosecution of this application, the Examiner has cited U.S. Patent No. 5,262,873 ("Ishizuka") as prior art.[2] In fact, the Examiner previously argued on several occasions that Ishizuka teaches:

> Ishizuka, as a prior art, starts with teachings of a correcting device in which a white correction digital signal is obtained by reflecting a light from light source by a white reference (e.g. document) provided in the scanner (col. 3, lines 65-68 through col. 4, lines 1-3). Ishizuka further discloses "Since the scanner is generally characterized by the white signals between adjacent pixels or within a range of a small number of pixels being similar to each other, the difference between the adjacent pixels is, for example, between 1 and several tens of percentage points of the full scale. Therefore, the value representing the difference is small with respect to the number of bits of the output of the A/D converter 101, and the number of bits requited for the memory 103 can thus be reduced, saving the capacity of the memory 103" (col. 4, lines 43-52). Ishizuka further discloses "The output of the A/D converter 101 other than one to a few bits of the minimum resolution (LSB) side of the output of the A/D converter 101 is input to the subtracter 105, and the result of the subtraction is stored in the memory 103" (col. 5, lines 22-30) where the other bits other than LSB (a plurality of last bits) are MSB (or a plurality of first bits). From the above disclosure by Ishizuka it is clear that after white digital correction signal is obtained, the number of bits representing the white digital correction signal are reduced with respect to the small memory size and only a plurality of first bits (MSBs) of white correction digital signal are extracted.
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> Ishizuka further teaches a correcting device which obtains a dark (black) correction digital signal for each of the bits of the scanner by reading a black reference (document) or by turning off a light source and then by performing reading by the scanner under the darkest condition (col. 6, lines 56-61). Ishizuka further teaches "since the dark signal has a number of bits smaller than that of the effective signal, the number of bits of the quantized value of the dark signal is less than N. Since a value having a number of bits smaller than N is stored in the memory, the capacity of the memory can be saved (col. 7, lines 53-58). Ishizuka does not explicitly or specifically teach extracting the plurality of last bits of the black correction signal but does teach using fewer bits of the black correction signal, thus using the reduced memory size.
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> As discussed before, Ishizuka clearly teaches the white correction process by disclosing "Since the scanner is generally characterized by the white signals between adjacent pixels or within a range of a small number of pixels being

[2] Assignee makes no admission that this reference is prior art, but assumes that it is prior art for the sake of argument. Assignee maintains its previous arguments and positions taken regarding this reference.

similar to each other, the difference between the adjacent pixels is, for example, between 1 and several tens of percentage points of the full scale. Therefore, the value representing the difference is small with respect to the number of bits of the output of the A/D converter 101, and the number of bits required for the memory 103 can thus be reduced, saving the capacity of the memory 103" (col. 4, lines 43-52) and further discloses extracting plurality of first bits (MSB) to represent the white correction value and thus leaving behind LSB of minimum resolution (or contrast) (col. 5, lines 22-26). Similarly, Ishizuka performs black correction and apparently black being very small in value, all the pixels can be represented by the smaller number of bits. Further emphasizing, it is a well-known technical fact, that black occupies one end and white occupies another end of the grayscale range. Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention was made in view of the well-known technical fact such that if MSB or plurality of first bits of white correction signals are selected for white image correction, as done by Ishizuka, LSB or plurality of last bits of black correction will be selected for black image correction, as black occupies one end and white occupies another end of the grayscale contrast range and Ishizuka does teach the scanner (or image extracting device) is generally characterized by the white signals as discussed before, whereas black correction is done when there is no light source or using black reference, thus the black correction signal being too small, and further white correction extracts high resolution MSB side bits leaving behind low resolution LSB bits and since black correction represents very small value, the selection of bits from the LSB minimum resolution side is obvious.

Ishizuka further discloses that in order to reduce memory size, a common memory is used by both a white signal correcting device and a dark (black) signal correcting device, and these two correcting devices are formed as one unit and figure 9 shows that one unit (col. 8, lines 35-44). Ishizuka further discloses the method performed by h s single unit where, (a) first, a black correction digital signal is obtained (col. 8, lines 45-47) and the black correction digital signal (a plurality of bits) is stored in the four leftmost bits of the flip-flop 303 (col. 8, lines 55-57), and (b) second, a white correction digital signal is obtained (col. 8, lines 58-60) and the white correction digital signal (a plurality of bits) is stored in the four rightmost bits of the flip-flop 303 (col. 8, lines 63-66).

[Office Action, dated February 23, 2006 at 3-6]

While Assignee does not always agree with the Examiner's assessment and characterization of what Ishizuka teaches, if Ishizuka is prior art, as asserted by the Examiner, then the teachings of Ishizuka (as found in the reference itself, as distinguished from a characterization of the reference) reflect matter known in the prior art, evidencing the state of the prior art. This must be considered by the Examiner in making an enablement

determination. [MPEP §2164.01(a)] Though Ishizuka does not disclose nor render obvious the presently claimed invention, its teachings provide evidence as to what was known to those or ordinary skill and help to reveal the context within which one of ordinary skill would understand the presently claimed invention. Based upon information known in the prior art, upon a reading of the present application, one of ordinary skill would understand how to make and use the claimed invention. Specifically, one of ordinary skill would understand how the presently claimed invention seeks to avoid the LBB effect in a scanned image caused by dust, a spot or other unwanted matter on the correction document, by extracting only the last few bits of a scanned image during black correction and only the first few bits during white correction; thus providing image correction. Accordingly, based upon the state of the prior art, claim 1 is enabled and the Examiner's rejection is respectfully traversed.

Because claims 2-22 either depend from or contain similar limitations to claim 1, the Examiner's rejection of these claims is respectfully traversed for at least the same reasons. Accordingly, Assignee believes that claims 1-22 are in condition for allowance. Further, because new claims 23-32 contain substantially similar claim limitations, Assignee believes that these claims are also in condition for allowance.

Assignee notes that additional patentable distinctions between the prior art and the rejected claims exist; however, the foregoing is believed sufficient to address the Examiner's rejections. Likewise, failure of the Assignee to respond to a position taken by the Examiner is not an indication of acceptance or acquiescence of the Examiner's position. Instead, it is believed that the Examiner's positions are rendered moot by the foregoing and, therefore, it is believed not necessary to respond to every position taken by the Examiner with which Assignee does not agree.

CONCLUSION

In light of the foregoing, consideration and allowance of the claims is hereby earnestly requested. Consideration of the present patent application and early allowance of all the claims is respectfully requested. Please charge any underpayments or credit any overpayments to Deposit Account No. 50-3703.

Invitation for a Telephone Interview

The Examiner is invited to call the undersigned attorney, Katherine F. Horvath, at (231) 932-7389 if there remains any issue with allowance.

Respectfully submitted,

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Dated: /February 9, 2007/

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